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CURRENT NOTES ON ANTHROPOLOGY.—XXXIII.

(Edited by D. G. Brinton, M. D., LL.D., D. Sc.)

OLD SKULLS, AND PERHAPS THAT OF SOPHOKLES.

LAST year, before the British Association, some skulls were exhibited and described, which were of men said to have lived six thousand years ago. They were brought by Mr. Flinders Petrie from Egypt and taken from tombs of the third or fourth dynasty. They were rather dolichocephalic,—about 75,—and from the general relations of the skeleton, belonged to a somewhat undersized race, with negroid characteristics. They may have been slaves, or a mixed strain.

Not less interesting is the description recently given by Professor Virchow, in the Proceedings of the Royal Prussian Academy of Berlin, of some Greek skulls of ancient date. One of them, from Menidi, was believed by its finder to be that of the great classical dramatist, Sophokles. The oldest were from Mykenæ, Spata and Nauplia and were prehistoric. They were all slightly brachycephalic, orthognathic, with the nose rather broad.

The grave of Sophokles is believed, on a certain amount of literary evidence, to have been on the road from Acharnai, the modern Menidi, to Dekeleia, about 11 stadia from the latter. Following this clue, the archæologist Mûnter opened a tumulus at this point, and came upon a stone wall enclosing four sarcophagi, two of marble, each containing a male skeleton. One of these was of a very old man, with a cane by his side, an alabaster vase, etc.

Sophokles died at ninety years of age in B. C. 406, so the character of skull, as that of a very old man, corresponds. It proves on examination to be long, 73.3, with a remarkable irregularity between the right and left hemispheres, the left temporal suture nearly obliterated, the forehead broad, the face narrow and high and slightly prognathic, the nose narrow, the capacity low, 1340 c. c. Possibly it is the very skull of the old poet.

THE AFRICAN PIGMIES.

Few anthropological questions are of so much importance as that of the African pigmies. In the last number of the *Zeitschrift für Ethnologie*, Mr. Stuhlmann, who had been with Emin Bey, gives some interesting facts about them. Their height is about 1.25 metres, the head round, the nose flat, the face very prognathic, the hair spiral-woolly and brown, the skin light-brown with an undertone of reddish-yellow. The beard is scant, a light, down-like hair covers the whole body, and the effluvium of the person is penetrating and disagreeable. They differ very much, therefore, from the true negro race.

Mentally, they are cunning, cruel, with keen senses and thieving propensities. They use small bows with poisoned arrows, live in slight temporary shelters, and wear light clothing of leaves or strings. Their language has no numerals, and is related to that of the Wambuba tribes. They appear to have no ornaments, nor to tattoo the skin, but they occasionally bore two holes in the upper lip. They seem to have some religious notions, as they are careful to bury the dead in a particular position. They have some form of marriage, and cannibalism is not general.

Stuhlman does not believe that these dwarfs came about through degeneration, but that they are the relics of a peculiar variety of the human species which once extended over Africa and probably reached into Asia. They have many childish traits, their skeletons are in various respects undeveloped, and they may be regarded as a race of human beings which has undergone permanent arrest of evolution.

This was also the conclusion to which H. Panckow ar-

rives, in an article published in the Journal of the Berlin Gesellschaft für Erdkunde, in 1892. He claims that an original diversity is proved by such traits as the color of the skin, the development of the gluteal muscles, the smallness of the hands and feet, etc.

It must be said, however, that these peculiarities are only somewhat greater in degree than those of the Bushmen, the Lapps and other diminutive races; and it is not yet necessary to demand for the African dwarfs an origin different from that of the rest of the human race.

FURTHER ON THE "HITTITE" QUESTION.

IN *Science*, May 26, I referred to some recent studies about the so-called "Hittites," or rather, once so-called, but so no longer. The Hittites, as real people, are now determined to have been a Semitic tribe, speaking a dialect not remote from that of Phenicia. They are not the people who wrote the mysterious inscriptions in syllabic characters which still so puzzle the antiquary. These are now referred to as "Pseudo-Hittites," or as before said, Chaldi.

Their language is still unclassified. M. Menant claimed to have fixed two of its words, *kar*, a fortress; and *sarou*, king; but these are Semitic, so he was off the track. Professor Sayce, in the edition of his "Comparative Philology," published last year, asserts that it "belongs to the Aiarodian group of speech, of which the Georgian may be taken as an example;" but Professor Sayce's identifications and translations (?) of the Vannic inscriptions have been treated with small respect by the latest students.

Among such students may be named Lehman, Belck and Nikolsky. The last-mentioned has printed twenty-two Chaldic inscriptions with attempted renderings, in the Proceedings of the Moscow Archæological Society. It is claimed that these determine positively several words, such as *ainei*, stone; *inili*, palace; *tini*, named; and a few more. One of the most important inscriptions is that of the styła of Rusas at Toprakaleh, which promises to yield its contents to persistent study.

The present tendency seems to be to regard the Chaldi as of Indo-Germanic origin, probably immigrants from Europe, and their culture largely self-developed. Lehmann, in the last number of the *Zeitschrift für Ethnologie*, gives the credit of first broaching this theory to Professor Puchstein.

ANTHROPOLOGY IN ROME.

IT is a gratifying evidence of the scientific activity which prevails in Italy, that in June last the Società Romana di Antropologia was founded at Rome, with a membership of about one hundred founders. The aim of the Society is broad, anthropology being understood in its true sense as the science of man in all departments of his nature. The announcement therefore states that the publications of the Society will embrace papers of the physical traits of man; his origin and pre-history; his ancient migrations; arts and social relations; the ethnic influence of peoples on each other; collective and ethnic psychology and pathology; and the physical and mental education of tribes and nations. The Society is not confined to citizens of Rome, but intends to include those interested in these studies throughout Italy.

The President is Professor Giuseppe Sergi, the distinguished teacher of anthropology in the University of Rome; and among the members are Dr. Angelo Colini, docent in ethnology in the same University; Dr. L. Moschen, docent in anthropology; Dr. E. Raseri, docent in statistical demography, in the same; Dr. E. Brizio, professor of archæology in the University of Bologna; Dr. V. Grossi, docent in American ethnology in the University of Genoa; Dr. A. Zuccarelli, professor of criminal anthro-

pology in the University of Naples; Dr. Riccardi, docent of anthropology in the University of Modena; and many others whose works have secured them well-earned titles of honor.

Professor Sergi himself is one of the most industrious of anthropologists. Within the present year I have seen from his pen a learned essay on the "Principles and Methods of Classifying the Human Race," by craniological forms; a "Systematic Catalogue of the Varieties of Man found in Russia;" and a Report on the Anthropological Congress in Moscow in 1892. No doubt under his active guidance the new society will have a prosperous career.

NOTES OF SOME EXPERIMENTS ON THE HOUSE-FLY.*

BY JOHN B. SMITH, SC. D., RUTGERS COLLEGE, NEW BRUNSWICK, N. J.

INSECTS, in some circumstances, exhibit a tenacity of life which is extremely surprising. They will stand a great deal of mutilation, apparently without manifesting pain, and will get along quite comfortably on a minimum allowance of wings and legs.

The house-fly is about as common an insect as we have, and I was led recently to try some experiments with a view to locate, as nearly as might be, the seat of life—or rather the controlling nerve centre, for life exists in each cell—in this insect. A number of flies were captured and decapitated. This process, of course, severed not only the nervous cord, and separated the brain from the rest of the body, but it cut as well the alimentary canal, and the main blood vessel, the Aorta. Flies so treated lived from ten to sixteen hours. They had, of course, lost all sense of direction; but had not lost the use of any of their limbs. When they were touched with the point of a needle they would walk away; but always in a straight line, and without attempting to avoid any obstacle that might have been in the way; if the annoyance was more than a little, they would attempt to fly. As in the former case, they were unable to direct themselves, and as soon as they met with an obstacle would rest quietly until again irritated. So long as they were left undisturbed they remained at rest, or if a pencil was presented to them between the fore legs, they would crawl up for a short distance, and again rest quietly. In such cases it was rather difficult to make them loosen their hold; they would cling tightly, and would not, if they could avoid it, loosen their grasp until something else was presented to them to which they could attach themselves. There seemed to be a realization that something was wrong, and occasionally the front legs would pass over the place where the head ought to be; but there was not at any time what could be considered as a manifestation of pain.

From another set of flies the abdomen was cut. This severed the nervous cord, the heart and the digestive system including in the latter almost all save the oesophagus. These insects lived for from six to ten hours, and for a large portion of the time they were active, flying about and running, and in fact behaving themselves like insects that were in all respects normal. As in the other case there seemed to be no active manifestation of pain. For a short time, say half a hour after the abdomen was severed, the insects were constantly extending and withdrawing the proboscis, evidently realizing that something was wrong, in that connection. At no time was there any interference with the power of motion, either of the legs or wings, and in fact it was impossible to see any difference between their case and those of perfectly normal flies, under the same circumstances and confined with them.

*Read before Section F., at the Madison meeting of the A. A. A. S.

Perhaps a few words of explanation concerning the gross anatomy of the fly may not be entirely out of place in order that my experiments may be better understood. Insects, generally, have only a single blood vessel, extending the full length of the body, and lying just beneath the dorsum, or upper surface. The digestive system occupies a large portion of the abdomen, and the central part of the thorax. The nervous system extends the full length of the body, in the form of a double cord, on which there are at somewhat irregular intervals enlargements or ganglia, and it lies on the floor of the body, just above the under surface. That ganglion which is situated in the head, is called the brain. We have seen that severing the brain from the rest of the body did not kill the insect; the severed head in no case showed any power of motion in any of its parts, no matter what means were taken to excite it. So long as the head was left attached to the body, even if the abdomen had been cut off, all the mouth parts, and the antennæ could be readily excited and made to move. No insect that had been mutilated by cutting off the abdomen could be induced to feed or attempt feeding. Cutting off all that part of the nervous cord that was situated in the abdomen produced no interference with the powers of motion. From another set of specimens both head and abdomen were removed, leaving only the thorax with its appendages; how much life remained in the abdomen it was impossible to say, since it contained no appendages that could be readily stimulated. The head, as already mentioned, soon died; but the thorax alone retained life for more than six hours, and these fragments of insects could be readily made to walk, although rarely could they be induced to make use of the wings. Yet if one were held up by the legs with forceps, the wings would be used in trying to escape, and would buzz as lively as if the insect was in full possession of all faculties.

From a number of other specimens the abdomen and that portion of the thorax containing the hind legs were removed. These specimens lived for from five to six hours. Both fore and middle legs remained perfectly active, and the mouth parts were readily stimulated. The hind legs could not be stimulated even where that portion of the thorax bearing them remained attached to the abdomen.

Another set of specimens was treated as were those last mentioned, except that the head also was removed. Here two-thirds of the thorax, containing two pairs of legs, remained alive quite as long as when the head was attached to it; the presence or absence of the brain appearing to make no difference. Other specimens were taken and these were cut in two between the first and second pairs of legs. The anterior part, containing the head and fore legs, remained alive for from four to five hours, although of course incapable of moving about. It was easy to induce an insect so treated to extend its tongue, and indeed this was done quite frequently by the insect even without stimulation. The legs were passed at intervals over the front of the head and there was no difficulty in exciting them to motion by merely touching with a needle or any similar instrument. That part of the insect containing the middle and hind legs and the abdomen seemed devoid of active life, and it was impossible to induce these structures, or the wings, to move, within a very few moments after the operation. Another set of specimens was treated exactly as those last mentioned save that here the head also was cut off. In this case the fragment of the thorax containing the front legs lived for three hours, while the other portions of the insect were apparently dead a very few minutes after the operation. An insect cut in half through the prothorax died almost immediately, neither portion responding to such stimuli as I employed, more than a very few moments after.